

The power of the instrument, however, did not cease here. Dr. Blundell showed that it possessed the means of reproducing the pain in the most intense form. The *south* pole of the magnet was directed along the finger. At the third pass the patient began to bite his lip, and close his eyes with an expression of pain. At a few passes more his chin was involuntarily buried in his breast, and his wrinkled features evinced the acutest suffering. This was allowed to continue for a few seconds, when the *north* pole was again presented to the finger, and the agony speedily subsided. The spectators then left the man with a countenance perfectly tranquil.

"At the extremity of the ward lay an elderly lady, a martyr to *tic douloureux* in the lower jaw, extending to the ear, and affecting a large portion of the head. The disease, she stated, was of more than nine years' duration, and had never ceased to afflict her for a day during that period up to her entrance into the hospital. Her appearance was proportionably miserable. The magnet had also been applied in her case, and with similar advantage, as she stated. On the present occasion, it was found on approaching her bed, that she was that morning free from pain, and the aid of the magnet was not needed. 'But cannot you show its power by producing the pain?' inquired a bystander. The suggestion was acted on. The *south* pole of the magnet was passed from the centre of the chin along the lower jaw-bone up to the ear. At the third pass the poor woman indicated that the *tic* was commencing, and in a few seconds more the affection was experienced intensely. The process was then stopped, as the experiment was carried far enough to satisfy all present of its consummation, and after a brief space the presentation of the *north* pole wholly freed the sufferer from pain. The operator subsequently stated that by continuing the passes he could have carried the pain on to the production of delirium.

"There is a female patient in another ward who had suffered intense toothache for three months, when a fortnight since, according to her own evidence, which we have no reason to doubt, it was instantly cured by one application of the magnet, through the medium of a key, and had not returned in the slightest degree up to the period of the visit on Tuesday last.

"These are very interesting facts. We present them to our readers unaccompanied by comment. The specific name given to his instrument by Dr. Blundell, is that of 'mineral magnet.' How far its application to disease admits of extension, we are at present ignorant."

OPHTHALMOLOGY.

30. *On the Reproduction of the Crystalline Lens, after the Operation for Cataract.*—In the 14th vol. p. 384, of the Philadelphia Journal of the Med. and Phys. Sciences, we gave an account of the experiments of MM. Cottreau and Leroy d'Etiolles on this subject, and which seem to prove that the lens was reproduced. Similar experiments since tried by Dr. Barkhausen, of Berlin, were, however, attended with different results. This subject has been still more recently investigated by M. Marx, and the January number of the *Archives Générales* contains a memoir from him in relation to it. M. Mayer examined the eye of an old woman, on whom the operation of enucleating had been performed several years previously. There was no trace of the depressed lens; the vitreous substance occupied its place, and immediately behind the anterior wall of the crystalline capsule, was observed the posterior wall or layer with the vitreous humour pressing forwards upon it. The following experiments, among many others, were performed by M. Mayer. The lens was extracted from the left eye of a rabbit, which was killed three days afterwards. No trace of a new lens was found at this period, nor on the fourth, fifth, sixth, or seventh days; but on the eighth, the crystalline capsule contained a small ring of crystalline substance, which could be separated from the capsule. At the end of one

month a large ring of crystalline substance occupied the place of the removed lens. In another rabbit, examined about the same time after the operation, a large white annular lens, with an opening in the centre, was found in the capsule, which adhered to this new lens. In eight weeks the new crystalline presented several white granular points arranged in a circle, having an opening in the middle; and in four months and a half it was not yet completely regenerated; for it was deficient at the centre, leaving there a rounded aperture, at the place where the capsule had been cut during the operation.

Soemmering has given us an account of four dissections, at different periods after the operation on the human subject.

In the first, the patient had been couched eight years and a half before his death. In the place of the crystalline capsule two semilunar whitish cheezy formations were formed, attached by their peripheral margin to the zonula Zinnii, and floating free at the inner margin; they were doubtless the remains of the crystalline capsule. The new crystalline was transparent, gelatinous, and imperfectly formed. The former one had been completely absorbed, but a small piece of the original capsule was found imbedded in the vitreous humour.

CASE II. Three months after Couching.—In the place of the former lens Soemmering observed an annular transparent gelatinous deposit, imperfect at the centre, which was occupied with a fine, almost diaphanous and arachnoid membrane, situated right behind the pupil, and forming a septum between the aqueous and vitreous humours.

CASE III. Two years after Couching.—Similar appearances were discovered. A ring of transparent substance, of the consistence of jelly, in the situation of the lens of the left eye; in the right one, which had been also operated on, the new deposit was only semicircular, the upper part of the circle being deficient. Probably the cause of this was that, during the operation, the upper half of the capsule had been completely torn from its adhesions.

CASE IV. Three years after Couching.—The annular "renflement," or new deposit, had been very regularly formed: it was slightly and equally convex on both its surfaces, and was quite free from any adhesions to the uvea.

It is to be kept in mind that in order to display the annular crystalline substance the eye must be immersed in strong alcohol, by which the new deposit is rendered slightly opaque. Soemmering was at first puzzled to determine whether it was really a substitute for the removed lens, or was merely a product of inflammation; but he was speedily satisfied that the former was the case. Sometimes the ring is imperfectly formed; and in other cases we find only isolated points or grains. These cannot be the debris of the original cataractous lens, as some have imagined, for the simple reason that these grains are perfectly transparent, and the cataract was opaque. The preceding facts sufficiently show that there is a reproduction, although an imperfect one, of the crystalline lens; but we have reason to believe that an indispensable condition is a sound and healthy state of the capsule, and especially of its front layer; if this be either much torn and destroyed, or if it be rendered opaque by disease, there is no regeneration of the crystalline. In all probability, the secretion of the new substance is chiefly, if not altogether, from the inner surface of the anterior wall or layer of the capsule; and as this layer adheres intimately to the contained crystalline, no traces of the cavity or liquor of Morgagni can be henceforth discovered. The process of regeneration proceeds invariably from the circumference to the centre; and is always found interrupted at the place where the capsule has been cut, or lacerated during the operation;—the rent in the capsule is occupied with cellular substance. Hence the crystalline substance is never entirely reproduced, but always presents in the centre, or opposite to the injured part of its capsule, an opening which is filled up with a fine cellular tissue. The shape of the new crystalline is generally that of a three-quarter moon, the horns of which nearly touch each other. In the experiment on the rabbit, which was allowed to live for four months and a half after the operation

of extraction, the new crystalline had this form, with a free space in the middle, occupied by a cellular web.

M. Leroy d'Etiolle and Soemmering state that they have found the new crystalline free and unadherent to its capsule; the observations which M. Mayer has made do not coincide in this respect with theirs;—it is a point left open for examination. It is worthy of remark, that the mass of the new crystalline almost always exceeds that of the original; but that the entire eye very generally becomes somewhat shrunk and contracted for some time after the operation. This shrinking is found to extend even to the optic nerve, and that, too, beyond the decussation as far as the thalamus. It is conjectured however, that in favourable cases the eye and its appendages may resume their original volume.

31. LISFRANC'S *Treatment of Amaurosis*.—First of all we should ascertain whether there are any symptoms of inflammatory fulness and activity in the eye or head;—as a matter of course, such cases require depletion; when, however, we have reason to believe that the disease is one rather of debility, Lisfranc strongly advises us to direct our attention in an especial manner, to stimulate the frontal and other branches of the fifth pair of nerves by means of repeated blistering over the eyebrows and temples. Should this fail, we must endeavour to excite the torpid organ by acting immediately on the ciliary nerves, any irritation of which is speedily propagated to the ophthalmic ganglion and the origin of the trigeminus. This is most effectually done by the application of stimulants to the cornea; and of these stimulants the nitrate of silver in substance is the best. The inferior segment of the cornea is to be lightly touched, till we perceive a whitish cloud;—the eye is then to be immediately washed with water. Considerable pain is felt; the whole apparatus of the eye is put into a state of so increased activity, that on the morrow a stranger might suppose that our patient laboured under acute ophthalmia. This treatment induces sometimes vomiting; and as it always occasions temporary contraction of the pupil, it must not be employed when there is a tendency to this evil. The operation requires to be repeated several times.—*Med. Chir. Rev. from Archives Générales, Jan. 1833.*

SURGERY.

32. *Fracture of the Os Hyoides*. By Dr. LALESQUE.—This fracture occurred in a marine, sixty-seven years of age, who, in a quarrel, had his throat violently clenched by the hand of a vigorous adversary. At the moment there was very acute pain, and the sensation of a solid body breaking. The pain was aggravated by every effort to speak, to swallow, or to move the tongue, and when this organ was pushed backwards. Deglutition was impossible, the patient could not articulate distinctly; and he was unable to open his mouth without exciting a great deal of pain. He placed his hand upon the anterior and superior part of his neck to point out the seat of the injury. This part was slightly swollen, and presented on each side small ecchymoses, one above, more decided, immediately under the left angle of the lower jaw. The large cornua of the os hyoides was felt very distinctly to the right side, and it could be felt on the left deeply seated, by pressing with the finger: in following it in front towards the body of the bone, a very sensible inequality near the point of junction of these two parts could be perceived. By putting the finger within the mouth, the same projections and cavities inverted could be felt, and even the points of the bone which had pierced the mucous membrane, &c. were evident. Having bled the patient, and placed a plug between his teeth to keep the mouth open, the broken branch was brought by the finger back to the surface of the body of the bone, and easily reduced. The position of the head inclined a little back: rest, absolute silence, diet, and some saturnine fomentations, composed the